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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,132	08/20/2003	Jason H. Anderson	X-946 US	5337

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EXAMINER

TAT, BINH C

ART UNIT PAPER NUMBER

2825

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,132

Applicant(s)

ANDERSON ET AL.

Examiner

Binh C. Tat

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08/20/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to application 10/644132 file on 08/20/03.

Claim 1-15 remain pending in the application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson Jasonet al. (US Patent 6871336).

3. As to claim 1, Anderson teaches a method for placing and routing a design on an integrated circuit, said design having a plurality of objects, said method comprising: (a) performing incremental placement on a routed design (see fig 1 element 104 col 4 lines 22-32); (b) generating a new routed design using incremental routing based on results of said incremental placement (see fig 1 element 104, 106, 108 and 110 col 4 lines 17-43); (c) storing said new routed design if its quality is superior to that of said routed design; and repeating said (a), (b), and (c) steps until a predetermined criterion is met (see fig 1 element 110 col 4 lines 17 to 56 Especially col 4 lines 44-48).

4. As to claim 2, Anderson teaches further comprising a step of performing timing analysis prior to step (a) to obtain timing information (see col 5 lines 6-22).

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5. As to claim 3, Anderson teaches wherein said incremental placement is based on said timing information (see col 5 lines 6-22).
6. As to claim 4, Anderson teaches wherein said incremental routing is base on said timing information (see col 5 lines 6-22).
7. As to claim 5, Anderson teaches further comprising a step of selecting a set of connections that need to be improved, and said incremental placement operates only on said set of connections (see fig 1 fig 2a-2b col 5 lines 6-56).
8. As to claim 6, Anderson teaches wherein said set of connections is selected based on deviation of said timing information from a predetermined constraint (see fig 1 fig 2a-2b col 5 lines 6-56).
9. As to claim 7, Anderson teaches wherein said quality is measured based on timing performance of said new routed design (see fig 1 fig 2a-2b col 4 lines 17 to col5 lines 56).
10. As to claim 8, Anderson teaches wherein said incremental placement is based on routing congestion (see fig 1 fig 2a-2b col 4 lines 17 to col5 lines 56).
11. As to claim 9, Anderson teaches wherein said incremental placement is based on unrouted pins in said routed design (see fig 1 fig 2a-2b col 4 lines 17 to col5 lines 56 and background).
12. As to claim 10, Anderson teaches further comprising a step of selecting a set of connections that need to be improved, and said incremental placement operates only on said set of connections (see fig 1 fig 2a-2b col 4 lines 17 to col5 lines 56).
13. As to claim 11, Anderson teaches wherein said incremental placement uses externally supplied parameters to guide its operations (see fig 1 fig 2a-2b col 5 lines 6-56).

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14. As to claim 12, Anderson teaches wherein one of said parameters is associated with distances said objects can move (see fig 1 fig 2a-2b col 5 lines 6-56).

15. As to claim 13, Anderson teaches wherein said distances vary with number of times said incremental placement has been performed (see fig 1 fig 2a-2b col 4 lines 17 to col5 lines 56).

16. As to claim 14, Anderson teaches wherein one of said parameters is associated with specifying a set of connections to consider (see fig 1 fig 2a-2b col 5 lines 6-56 and background).

17. As to claim 15, Anderson teaches wherein one of specifying a set of locked said parameters is objects (see fig 1 fig 2a-2b col 4 lines 17 to col5 lines 56 and summary).


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh C. Tat whose telephone number is 571 272-1907. The examiner can normally be reached on 7:30 - 4:00 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew Smith can be reached on 571 272-1908. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Binh Tat
Art unit 2825
November 26, 2004


THUAN DO
Primary examiner.
9/17/2005